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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,073	02/08/2001	Jim J. Chang	IL-10719	7486

7590 03/13/2003

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EXAMINER	
TRAN, LEN	
ART UNIT	PAPER NUMBER
1725	

DATE MAILED: 03/13/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/781,073	CHANG ET AL.	
	Examiner	Art Unit	
	Len Tran	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 February 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 13-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 89/01842 and further in view of Inagawa et al (US 5,166,493).

WO '842 discloses the method of drilling a hole comprising the steps of generating a first laser to form a ragged hole and generating a second laser to form a final hole with high precision (abstract, page 4, 3rd paragraph). The first laser beam is produced by the first laser and the second laser beam is produced by the second laser as shown in the figure. The first laser is rapidly removing the bulk of material in an area to form a ragged hole so that the final hole does

not extend entirely through the material. The first laser is controlled so that the final hole does not extend entirely through the material and the first laser beam leaves a thin membrane at the bottom of the hole. The second laser then controlled to break through the thin membrane at the bottom of the hole (page 8, last paragraph to page 9, first paragraph).

WO' 892 does not explicitly disclose the method of generating the high power percussive laser to focus to a diameter slightly smaller than the diameter of the hole.

However, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to focus the laser at a smaller diameter than the desired hole, since trepanning, or cleaning the edges would follow after the first drill.

WO '892 discloses the claimed invention above, but fails to teach first laser beam is an infrared laser beam, a second laser has shorter wavelength, the second laser is focused on a smaller diameter than the original drilled spot, and that both lasers are produced by a single laser.

However, Inagawa et al disclose the method of having two lasers for drilling a hole comprising the first laser to have a larger wavelength than the than the second laser (abstract) and that the drilling of the second laser has a smaller diameter than the first drilling (col. 4, lines 12-18). Inagawa et al disclose the above differences for the purpose of obtaining a smooth surface with less irregularities (col. 2, lines 40-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have different wavelengths as taught by Inagawa et al, in WO '892 in order to obtain a smooth final surface after drilling.

In addition, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have both lasers being produced by a single laser, since it has been held that making separable devices integral without producing any new and unexpected results involves only routine skill in the art. In re Lindberg 93, USPQ 23 (CCPA 1952).

Response to Arguments

4. Applicant's arguments with respect to claims 13-25 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (703)605-1175. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3602 for regular communications and (703)305-3602 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Len Tran
Examiner
Art Unit 1725

LT
March 7, 2003

M. ALEXANDRA ELVE
PRIMARY EXAMINER